

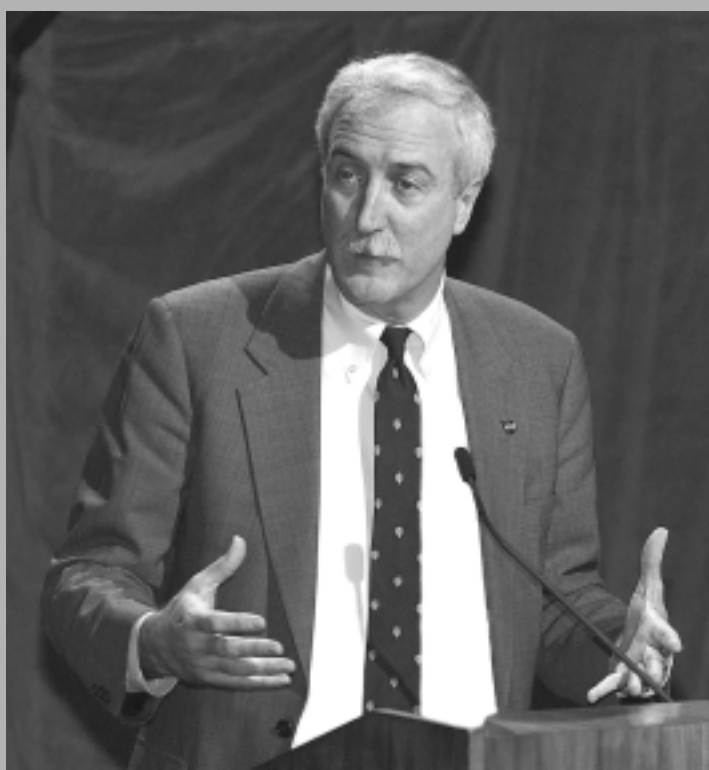
Administrator O'Keefe tours Ames, sets tone for future

How will history portray NASA's new Administrator, Sean O'Keefe? Time will tell. But as we seek a clear vision into the future through an often-cloudy crystal ball, we can only speculate what his words and actions may foretell.

During his recent whirlwind tour of Ames, O'Keefe delivered the message that NASA must be more focussed in its objectives, and

tunity to meet with local print media. A reporter asked what most surprised O'Keefe in his first few weeks of working at NASA. "Two things," he said. "There is almost no need to energize people (at NASA)." NASA people are highly motivated, he explained. They are in pursuit of "lots of

O'Keefe began his day at Ames with a breakfast in the Committee Room with U.S. Rep. Anna Eshoo, U.S. Rep. Zoe Lofgren, U.S. Rep. Mike Honda, Senator Diane Feinstein's State Director Jim Molinari, and the mayors



Administrator O'Keefe makes a point during his all-hands meeting with the Ames community. Employees were impressed by his friendly demeanor and emphasis on mutual respect.



photos by Dominic Hart

Congresswoman Anna Eshoo and Center Director McDonald share a light moment with O'Keefe during a break in the formal proceedings.

he suggested that an immediate agency goal should be to develop enabling technologies. One example technology he referenced is development of advanced space propulsion that would send spacecraft to the outer solar system much faster. He said that supporting educational activities is an important NASA activity that can encourage young people to specialize in science and technology.

"The visit went extremely well," said Center Director Henry McDonald. "Sean left very pleased at what he saw at the Center." O'Keefe's message to NASA employees and the local media alike suggested that NASA is at a turn in the road of its history.

While at Ames, O'Keefe took the oppor-

ing with reporters, and later with employees, O'Keefe repeatedly said that NASA needs to focus its efforts. An example of a clear objective, he explained, is the concept of 'follow the water,' mission to Mars. That objective is good because it may help us answer other questions related to life, he explained.

The larger task that NASA should zero-in on is what in the overall science and engineering agenda such that "if we didn't do it, it wouldn't be done," he said.

He added that one thing we have to be on guard for is that when dealing with public trust, "you shouldn't be caught maintaining capacity when you don't need it."

objectives," he said. But there is a need to focus the energies of the agency's work force, he added. There are so many interesting subjects that scientists wish to study, he suggested.

While talk-

and city managers of Sunnyvale and Mountain View. McDonald said, "Sean, we welcome you to Ames with such a demonstration of support from the local community and Congressional delegation." Anna Eshoo said that Ames was the first place she visited in her district after her election in 1992 and has proudly represented it since. Eshoo highlighted the excellence of McDonald's leadership and the quality of Ames research and development and its importance to the nation, stating that "Ames is the future." Lofgren and Honda explained that they are members of the House Science Committee (NASA's authorization committee) to help NASA Ames and the nation's aeronautics and space program. Feinstein's Molinari said, "...the Senator believes that Ames is critical to the space program and that a lot more will be coming out of here." O'Keefe was impressed by what was stated and said that "Ames is exploiting the opportunity to become an integral part of the community and the information technology sector as represented so impressively in Silicon Valley." Local community leaders voiced their support for Ames, and as the Congressional leaders did, supported the plan for the NASA Research Park.

"This is really an amazing place," O'Keefe said to the group of local reporters. He also

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Safety is mission one!

Did you know that ergonomic injuries account for 50 percent of all Ames reportable OSHA injuries? Many of these injuries are preventable. In response to the growing ergonomic issues at the center, Miriam Glazer of the Health and Safety Office established the Ergonomics Solutions Team last summer. Glazer has been the ergonomics program manager since 1997, with increasing responsibilities as awareness of ergonomics is heightened. She has enlisted the help of employees throughout the center in the enormous challenge of controlling and preventing ergonomic hazards in the workplace.

At present, there are over 30 members on the ergonomics team, including contractors and civil servants representing every code.

The first goal of the team is to get all members trained in either office ergonomics or industrial ergonomics. Deborah Hunter of PAI Corporation has been assisting Glazer in the ergonomics program and is helping the

coworkers prevent repetitive strain injuries and become more familiar with all aspects of ergonomics. 'Ergonomics for Office Workers' is a comprehensive 2-hour class offered each month. In addition, an industrial ergonomics class will be offered beginning in March. You may sign up for these classes on the Code QH web site located at: <http://q.nasa.gov> under 'Training/Training Registration.' To find out who is on the



Safety Committee Spotlight

The Ergonomics Solutions Team

training effort. A major goal for the future includes having all team members perform 10 ergonomic assessments in their codes by April of this year.

If you would like to join the Ergonomics Solutions Team, volunteers are still needed. Joining the team may help you and your



team in your organization, check the Code QH web site under 'Health/Ergonomics.'

For more information about the ergonomics program or to join the Ergonomics Solutions Team, call Miriam Glazer at ext. 4-5172.

Smart health care management system (SHMS)

NASA Ames and the Stanford National Biocomputation Center are developing systems to monitor the health and performance of NASA personnel. But to monitor the health of soldiers and astronauts requires lightweight, reliable, robust, and easy-to-use sys-

single harness that is easy to apply and is non-invasive. The sensor harness includes a signal conditioning device that is connected to a pocket PC that formats and transmits the data to a wireless LAN access point. From there, the data is distributed to wireless portable display devices, a local database, or directly to the internet. Data distribution is accomplished by a switchboard server, developed by Stanford, which receives input from a variety of sensors using a standard protocol, and distributes the information to multiple viewers. This system is also expandable to include other sensors, such as environmental sensors. The software supports various sensor types, handheld and head-mounted wireless display devices, and is able to alert the soldier or medic when the measured parameters exceed pre-set limits or conditions.

The Smart Health Care Management System (SHMS) has a wide variety of applications for both NASA and non-NASA users. Its main NASA application is physiological status monitoring of astronauts in clinical and operational scenarios. Because of the small size of this wearable system and its wireless data transmission technology, astronauts are allowed to move around freely and perform work while being monitored. The switchboard data server allows crewmembers or mission control center personnel to view the data using various display and analysis devices, such as wearable and handheld computers.

Recent advances in wearable metabolic monitoring devices from BodyMedia allow a more accurate evaluation of performance of a person working in extreme environments or under extreme stress. By measuring heat flow, skin resistance, activity, and other parameters, it may be possible to predict how long an astronaut can safely continue a space

walk. These new devices are currently being evaluated for incorporation into the SHMS system.



photos by Christine Chen

IPAQ Pocket PC that formats and transmits the data to a wireless LAN access point. Data is then distributed to wireless portable display devices, a local database, or directly to the internet.

There are many non-NASA applications of this wireless monitoring system as well. First responders could use it as a valuable diagnostic tool until the patient arrives at the emergency room. It also could be used to keep track of the health of a fire fighter in a building, or of a soldier on the battlefield. The system can easily be adapted to many different scenarios due to its open and modular architecture.

By CHRISTINE CHEN ▲



Vital Signs Monitoring device from NEXAN.

tems. The system should be unobtrusive and noninvasive, and not reduce the subject's performance. It must transmit physiological data in real time using secure wireless technologies. Ames and Stanford jointly developed a portable physiological monitoring system for astronauts that meets all of the above requirements and is applicable to soldier monitoring as well.

This modular system combines user-friendly, lightweight medical sensors, portable computing platforms, a secure wireless network architecture, and intelligent software for data display, storage and analysis. The vital signs sensors are based on a commercial, FDA-approved, home healthcare system from NEXAN and measure ECG, respiration, heart rate, pulse oximetry and temperature. All the sensors are integrated into a

Jim Monfort still remembered

Though Jim Monfort, who was retired from Ames, passed away last May at age 76, some of his former colleagues at the center may not be aware of his death or the details of his non-NASA life.

Monfort was born in Norfolk, Va., into a Navy family, according to his wife, Jackie.

"His father, a naval officer, was a pioneer naval aviator," she said. "Jim attended boarding school at Gill-St. Bernard's in Gladstone, N.J. for six years and transferred to Raenford Academy in Sherman Oaks, Calif., to be near



Jim Monfort

his family when his father was head of the Naval Air Station in San Diego."

In the fall of 1942, Monfort entered Stanford University, Palo Alto, Calif. in the V-12 college program. It was a naval program to train college students in preparation for service. In 1943, he was called to active military duty.

"He was sent to the University of Texas and on to Washington, D.C. for commissioning, and was immediately ordered to sea in 1945," his wife said. "After the war, he returned to the University of Texas and received his bachelor's degree in mechanical engineering. He accepted a position with BF Goodrich in Akron, Ohio."

After three years in Akron, Monfort went back to Palo Alto and married Jackie Chagnard at the Stanford Chapel in 1950.

In 1951, Monfort starting working at Ames, which at the time served as one of the National Advisory Committee for Aeronautics (NACA) research centers. He worked in high-speed wind tunnel testing, spending more than 10 years evaluating space vehicles, including the space shuttle, his wife said.

"He worked in the Unitary, the 12-foot

and the 14-foot wind tunnels primarily," said Dan Petroff of Code FO. "He did a lot of testing of early spacecraft--Mercury, Gemini and Apollo. He was instrumental in the test program that got the U.S. space program going."

"He was a very likeable person," Petroff said. "He helped me quite a bit. He was very open and supportive of junior engineers. He was a good mentor."

"He continued working at NASA on projects including the Stealth aircraft and took early retirement in 1980," his wife said. He worked a year or so at Ames after retiring, she added. "A lot of engineers did that at that time," she said.

"Jim continued working throughout his life in areas unrelated to aeronautical engineering," she continued. Shelly, his daughter, also an engineering graduate of Stanford, worked with Monfort in various businesses.

Father and daughter worked at Pruneridge Golf Club in Santa Clara while Shelly attended college. He enjoyed playing golf there.

His daughter began to work in the devel-

opment of medical devices. "Jim joined Fogarty Engineering, a medical device research and development group where our daughter began her professional career. He also later went to work with Shelly in several start-up medical device companies, including General Surgical Innovations and Starion Instruments, where he worked until his death," his wife said.

"Jim was an ardent genealogist for 20 years, his family research taking him all over the U.S. and Europe," she said. "He enjoyed golf and tennis and traveled the world with his family for the past 40 years, making lifelong friends in many countries."

Monfort also was a volunteer with the Friends of the Los Altos Library and a founding member and volunteer for the Museum of American Heritage in Palo Alto. He and his wife celebrated their 50th wedding anniversary in October 2000. His wife, Jackie; daughter, Shelly; and his sister Elizabeth Truax of Leola, Penn., survive him.

BY JOHN BLUCK ▲

New security procedures in effect



photo by Dominic Hart

The new security gate on Arnold Avenue became operational on Feb. 4. This is one of two new gates and a new security fence that have been installed to control public access to NASA Ames.

The Palm Pilot Story

As a start-up in the early 1990s, Palm Computing launched the Pilot organizer and Palm operating system, which triggered the handheld computing industry.

Palm principals Jeff Hawkins, Donna Dubinsky and Ed Colligan share the inside stories behind the origins of handheld computing. There will be a discussion led by

Andrea Butter, former Palm marketing executive and co-author of "Piloting Palm," on Tuesday, Feb. 26 at 7 p.m.

The discussion is sponsored by the Computer History Museum at the Moffett Training and Conference Center.

RSVPs are required by Feb. 19. For more information, call ext. 4-2714.

Center Briefs

Chandra finds ghosts of eruption in galaxy cluster

'Ghostly' relics of an ancient eruption that tore through a cluster of galaxies were recently uncovered by NASA's Chandra X-ray Observatory. The discovery implies that galaxy clusters are the sites of enormously energetic and recurring explosions, and may provide an explanation of why galaxy clusters behave like giant cosmic magnets.

"Chandra's image revealed vast regions in the galaxy cluster Abell 2597 that contain almost no X-ray or radio emissions. We call them ghost cavities," said Brian McNamara of Ohio University in Athens. "They appear to be remnants of an old explosion where the radio emission has faded away over millions of years," he said.

Hubble suggests first stars opened in a blaze of glory

The deepest views of the cosmos from NASA's Hubble Space Telescope yield clues that the very first stars may have burst into the universe as brilliantly and spectacularly as a fireworks finale. In this case, though the finale came first, long before Earth, the sun and the Milky Way galaxy formed.

If this interpretation is correct, it offers a tantalizing possibility that astronomers may behold this stellar blaze of glory when they use NASA's Next Generation Space Telescope and other future space telescopes to probe even farther into the very early universe.

NASA balloon makes record-breaking flight

Larger than a football field and flying near the edge of space, a NASA scientific balloon has set a new flight record of almost 32 days after recently completing two orbits around the South Pole.

The record-breaking balloon carried the Trans-Iron Galactic Element Recorder (TIGER) experiment, designed to search for the origin of cosmic rays, atomic particles that travel through the galaxy at near light-speeds and shower the Earth constantly.

The pilotless, helium-filled scientific balloon was launched from McMurdo Station, Antarctica, on Dec. 20, 2001. The balloon traveled approximately 8,800 miles before landing about 31 days, 20 hours later on Jan. 21, 284 miles (458 kilometers) from the McMurdo Station. Payload recovery operations are in progress.

The previous endurance record for a long-duration balloon flight was set in January 2001 from McMurdo. The flight was one orbit of the South Pole that lasted 26 days. The TIGER mission was able to more than double the amount of continuous science observational time over any previous balloon mission.

Safety regulations - whom do you call?

Scenario: You have just been asked to present the next Ames Safety Accountability Program (ASAP) topic to your organization. While reviewing the topic, you have some questions about the regulations and how they apply to your organization. Is there someone you can call for help?

Answer: Yes, Code QH has assigned a safety specialist and an industrial hygienist to each directorate at Ames.

The Safety Office hopes to provide better customer service throughout the center in order to make it easier for proactive organizations to improve safety. Each directorate has been assigned one industrial hygienist

and one safety specialist as a point of contact. These individuals will be working with the assigned organization throughout the year. As they become familiar with your facilities, mission and staff, they will be in a better position to help you interpret complex safety rules and solve problems involving potential hazards. They would like to get to know supervisors on a first-name basis and participate in various safety-related activities, such as training, safety committees, ASAP meetings and staff meetings. If you have an idea how they might help you, find the point of contact for your organization in the table below and give them a call.

Directorate	Safety Specialist	Industrial Hygienist
Codes A, I, N and Y	Deborah Hunter, ext. 4-3352	John Rosen, ext. 4-6295
Code D and NRP	Rob Clark, ext. 4-1806	Ramsey Razik, ext. 4-6946
Codes F and J	Bill Bramble, ext. 4-0922	Dan Kuey, ext. 4-3573
Codes C, Q and W	Don Dains, ext. 4-3276	Lynne Keswani, ext. 4-3680
Code S	Presley Millare, ext. 4-0925	Janeen Robertson, ext. 4-5986

DDF poster session held



photo by Tom Trower

From left to right: Bill Feiereisen, Center Director Dr. Harry McDonald and Greg Laughlin discuss a telescope/CCD system designed to detect transits of extrasolar planets using the photometric technique. The system is affordable and straightforward to use, making it possible for amateur astronomers to become involved in the exciting search for planets outside our solar system.

A Director's Discretionary Fund (DDF) poster session took place in the Moffett Field Training Center on Jan. 14. Nearly 40 posters were presented describing the

work that is being carried out with DDF funding. The poster session was well attended by both senior management and the science community at Ames.

NASA software to help speed aircraft departures

Researchers aim to avert airport gridlock with a new software tool being evaluated in NASA's virtual control tower simulator.

NASA researchers and Dallas/Fort Worth air traffic controllers conducted the second evaluation of the Surface Management System (SMS), being developed at Ames. Current systems used by airports don't provide controllers with accurate information about the number of future departures. During the various 'rush hour' times at the airport, scheduled departures often exceed runway capacity, creating delays.

"The main objective of the Surface Management System is to allow the controllers and airlines to collaboratively manage departure operations and surface movements. The system gathers relevant information from multiple sources, processes it and displays the appropriate information and advisories to the users," said Dr. Steve Atkins, SMS project lead at Ames.

"The system has the potential to decrease departure delays significantly," he added.

The information compiled by the system is displayed as aircraft-location maps, departure timelines and load-capacity graphs giving controllers timely data to effectively manage aircraft movement between the terminal and the runway. With this information, controllers can predict possible traffic congestion and rapidly eliminate system bottlenecks.

Ames' FutureFlight Central (FFC) air-traffic control tower simulator was used for the evaluation. FutureFlight Central gives controllers a unique facility to test software tools with its detailed 360-degree views, providing controllers with a very realistic experience. The data collected will be used to refine the SMS user interface and identify additional user features.

"We presented a spectrum of ideas to a group of Federal Aviation Administration controllers and airline representatives to help us focus on what potential capabilities would be most helpful. Our ideas have been received positively," said Atkins.

The realism provided by FFC will allow for the smooth transition to the field-test portion of the evaluation.

Additional features, such as integration with arrival scheduling and other air traffic management tools, will be added as part of the staged evolution of the tool.

Other participants in the evaluation were representatives from the Federal Aviation Administration's Free Flight Program office,

officials from major passenger and freight carriers, and controllers from Memphis, Tenn., and Norfolk, Va., airports.

The Surface Management System is being developed at Ames by the Advanced Air Transportation Technologies project, a part of the Aviation Systems Capacity program. Ames has been conducting air-traffic control

research and development since the mid-1980s.

More information about the Aviation Systems Capacity program can be found on the Internet at: <http://www.asc.nasa.gov/>

More information about FutureFlight Central is available at: <http://ffc.arc.nasa.gov>

BY JONAS DIÑO

Students and robots compete in 'Arctic rescue' scenario

A daunting challenge awaited 500 northern California students and their miniature robots on Jan. 12 at San José City College.

Students had to use their expertise and imagination to respond to the following transmission: Massive Arctic storm approaching. Stop. Expedition Arctic Impact ordered to evacuate. Stop. Renowned scientists trapped by storm. Stop. Millions in equipment and valuable research in peril. Stop. Request immediate assistance.

The contestants, ages 9-14, competed to save the imaginary Arctic expedition by programming their robots to perform various missions within a 2-minute time limit.

"The purpose of this challenge was to enhance student awareness in science and engineering. We often find that students participating in these programs show great improvement in their science and math courses," said Hank Schwoob, team mentor and volunteer coordinator, from Ames. "I knew this was going to be big when out of 600 students in my daughter's school, 60 are participating."

The competitors' Lego robots were scored on their ability to: raise three flags, launch a weather balloon, raise a weather tower, get a medicine barrel, deliver a research instrument, retrieve an ice core, move a storage hut away from cracking ice, deliver 10 fuel barrels and rescue three scientists.

Teams had eight weeks to build their robots from identical kits received from the FIRST (For Inspiration and Recognition of Science and Technology) organization that sponsors robotics competitions across the

country. Each year, the competition focuses on a scientific or technological prob-



Ames engineer Alan Federman discusses robots with Encinal 6th grade student.

lem facing the world today. This year's challenge is global warming.

The FIRST Lego League is a collaborative effort between FIRST, the NASA Robotics Education Project managed by NASA Ames, and industry partners.

Further information about the FIRST Lego League is located on the internet at: <http://www.usfirst.org/jrobtcs/index.html> More details about the NASA Robotics Education Project are on the internet at: <http://robotics.nasa.gov/>

BY JONAS DIÑO

Administrator O'Keefe tours Ames, sets tone for future

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said that Ames has the advantage of being amidst the extraordinary capabilities in Silicon Valley. Ames is in an ideal location for collaboration with academia and industry, he said.

O'Keefe came to NASA from the Office of Management and Budget, where he served as deputy director since March 2001. He is

leaders in the Ames Committee Room, a Senator Barbara Boxer aide, Adrienne Bousian, read a letter to the new Administrator from the senator praising Ames and wishing him good luck in his new job. O'Keefe addressed Ames employees for an hour during an all-hands meeting in the main auditorium. He spoke of an opportunity to focus

grand challenges, but we need to be disciplined."

"Propulsion is limited," he said. If we started immediately on a mission to Pluto, inside of 20 years we would only be able to take some pictures on arrival for about two weeks. Distance and time, according to O'Keefe, limit our space missions. During his Ames visit, he repeated his message that NASA should look at what technological limitations block the Agency from obtaining objectives in reasonable time. He said that NASA must find ways to reduce the travel time to planets.

"There are all kinds of things we can do because we don't have to do (a volume production)," he said. Human resources have to be targeted, "really focussed," to achieve tasks, he continued. Also, there are a lot of things "we don't need to do any more." He remarked that the NASA budget is about \$15 billion, and that that sum can enable much to be done. NASA's charter is to "press the edge, to explore the unknown," he said. NASA people have an opportunity to focus their energy, and "define what we do."

"The contributions that each center makes will follow after we collectively set objectives," he said. "You have to be honest with yourself. You have to have something to back you up of what it takes you to do a task up front before you take the trip. So you decide up-front what it will cost," he added.

There are tough choices ahead because we have to be selective, according to O'Keefe.



The NASA Administrator charmed JASON kids while handing out patches and pins and welcoming them to NASA.

known as a manager with a pencil-sharp eye on budget. As the first deputy cabinet officer appointed in the Bush Administration, O'Keefe oversaw the preparation, management and administration of the federal budget and government-wide management initiatives across the executive branch.

Though O'Keefe and NASA's second Administrator, James E. Webb, came from backgrounds that include budgetary experience, they became NASA administrators during entirely different circumstances. Each man faced a different 'season' of history. Both men share a non-engineering background and a capacity for vision.

"During the Apollo program we had a focused mission," said O'Keefe. He said that what motivated the lunar mission was not just President Kennedy's speech in 1961 to a joint session of Congress that called for the country to go to the moon within the decade. "It (the race to the moon) was a very clear by-product of a Cold War," O'Keefe said. "It was to show our technological prowess Folks of that time also remember diving under desks," he said.

O'Keefe said we would have to think twice about "the price of duplicating those same calls to arms," (the circumstances that led us into the space race.) "Folks would prefer not to do that again," he pointed out to reporters from the San Francisco Chronicle, San José Mercury News, Mountain View Voice, Palo Alto Daily News and Bay City News Service.

After lunch with Silicon Valley industry

NASA's energy and define "what we do." He also said, "We have to develop this agenda . . . I don't know the answer to it. I don't have an agenda."

"In the next months, we will begin the debate of what the appropriate priorities should be," he said. "All of us are participants in this process. It begins Monday (Feb. 4) with the budget release (budget proposal for 2003)." He emphasized the need for the agency to overcome technology obstacles in order to achieve better science results faster.

"There is nothing we do that is linear. We don't produce things in volume," O'Keefe told the Ames audience. He explained that there are only four space shuttle orbiters and one space station. "We're not doing more than one, I can assure you of that," he said, to tumultuous audience laughter.

Asked about what should be NASA's grand challenges, he said he hoped "we (would) define what we do in future to meet the



photos by Dominic Hart

Congressman Mike Honda and Congresswoman Zoe Lofgren flank Sean O'Keefe during the community breakfast.

"If everything is a priority, nothing is a priority."

"Be ambitious. Be realistic about what it will take to do it," he continued. "Do our level best to achieve (our objectives)," he said.

"Everything, every tool in the bag, should be used to achieve the outcome," he added.

While at Ames, O'Keefe had the opportunity to meet with a large group of school children attending the JASON educational activities at Ames. Some 11,000 students

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Ames' proposed budget reflects IT emphasis

President Bush's budget request of \$15.1 billion for the Agency includes "a significant investment in computing and information technology developments and also increases the investment in biotechnology and nanotechnology--the revolutionary technologies of the 21st Century," according to a statement released by NASA Headquarters. This is promising news for Ames, where computing, information technology, biotechnology and nanotechnology are key components of the center's mission and research focus.

The proposed FY 2003 budget request for NASA Ames is \$708.7 million. "This budget is very encouraging, and clearly shows the importance of Ames' role in the agency's programs over the long term," said Ames Center Director Dr. Henry McDonald.

NASA Administrator Sean O'Keefe unveiled the president's proposed NASA budget during a news conference held Feb. 4 at NASA Headquarters. O'Keefe said the proposed budget reflects the president's "commitment to this agency's core research efforts and its fundamental mandate to advance aeronautics and aerospace science." He predicted that agency officials would "have no difficulty" defending NASA's proposed budget when the proposal is reviewed by Congress later this month.

During the one-hour briefing held at NASA Headquarters and televised live over NASA Television, O'Keefe appeared relaxed and in good spirits as he fielded questions from news media gathered in the Headquarters auditorium and also at several of the agency's field centers.

In addition to the Administrator's remarks, the briefing featured a video highlighting some of the NASA's future science and technology thrusts, including nuclear propulsion and flight safety programs.

"From developing safe, more powerful and more efficient space transportation systems to pioneering the frontiers of flight and knowledge, NASA is the world's premiere aerospace agency. We have the freedom and the people to dream big, and then are given the enviable task to make those dreams into reality," O'Keefe said.

"But it's not enough to make promises about the future. We have to adhere to 'The President's Management Agenda,' which asks us to responsibly live up to those promises," O'Keefe said. "The Administration has chartered a fiscal course for the future that asks NASA to look at the way it does business, identify improvements in management and performance, and continue to build on the agency's core foundation of science and technology research."

Additional information about NASA's FY 2003 budget and the President's management agenda is available on the internet, located at: http://www.nasa.gov/budget/budget2003_index.html or <http://ifmp.nasa.gov/codeb/budget2003/> or <http://www.whitehouse.gov/omb/budget/fy2002/mgmt.pdf>

BY MICHAEL MEWHINNEY

NASA Ames FY 2003 Proposed Budget (\$ in millions)

	FY 2002	FY 2003
Full Time Equivalent Employees	1,498	1,506
Space Science	105.4	116.4
Major Development Programs	43.6	51.9
Mars Exploration Program	4.5	3.9
Technology Program	3.8	4.3
Research Program	37.2	40.7
Space Science Institutional Support	16.3	15.5
Human Exploration and Development of Space	13.6	6.2
International Space Station	0.2	0.2
Space Shuttle	2.0	
HEDS Institutional Support	11.4	6.0
Earth Science	32.8	33.8
Earth Observing System Program	3.7	2.9
Operating Missions		0.5
Research and Technology	22.0	24.4
Aerospace Technology	474.4	429.8
Aerospace Focused Programs	151.5	
Aerospace Base	236.0	
Aviation Safety		22.8
Vehicle Systems		19.0
Airspace Systems		97.5
2nd Generation RLV Focused		23.9
Space Transfer and Launch Tech		5.8
Computing Info and Communication		160.6
Engineering for Complex System		18.5
Enabling Concepts and Technology		4.0
Commercial Technology Program	17.2	16.9
Aerospace Tech Institutional Support	69.7	60.6
Safety, Mission Assur and Engineering	0.6	1.1
Academic Programs	7.9	5.1
Biological and Physical Research	104.2	116.3
Biological and Physical Research and Technology	48.2	68.7
ISS Research	49.8	41.9
B&PR Institutional Support	6.3	5.7
	739.0	708.7

NASA kids' web site 'en espanol'

NASA's popular educational web site, Space Place, has announced a new Spanish-language version for children and their families.

The web site located at: <http://spaceplace.nasa.gov> and its new Spanish companion located at: <http://spaceplace.nasa.gov/espanol> serve children 8 to 13 years of age. The site contains approximately 40 activities, including games and 'amazing facts' about space, Earth and NASA.

The 2000 census data shows that Spanish is the primary language of more than 27 million people living in the U.S. Of those, nearly 13 million feel they do not speak English very well.

"This web site is dedicated to reaching that audience. NASA is committed to explaining the results of its programs to the entire American public in all its diversity," said Dr. Jeffrey Rosendhal, education and

outreach director of NASA's Office of Space Science, Washington, D.C.

The Space Place site launched in early 1998 and continues to add new activities each month. Its educational value has been recognized by the National Science Teachers Association, the International Technology Education Association, Griffith Observatory in Los Angeles, the Los Angeles Times, USA Today and several children's educational web sites.

The Space Place is an outreach effort of the New Millennium program, managed for NASA by the Jet Propulsion Laboratory, Pasadena, Calif. JPL is a division of the California Institute of Technology, also in Pasadena.

Ames is working cooperatively with NASA Headquarters, JPL and other NASA field centers to better serve Spanish-speaking communities and individuals throughout the United States.

BY JOHN BLUCK

Students can 'search' for habitable planets on NASA site

Searching for a fictional planet on which people could live is one of the student activities available on a new NASA web site that opened for business on Feb. 1. The web site is located at: <http://astroventure.arc.nasa.gov>

'Astro ferret,' a cartoon character, will guide students through a series of role-playing steps on the multi-media, interactive web site. Young people using the 'Astro-venture' web site can observe the effects of

web site to 150 teachers who attended a 'Space in the Classroom' conference Feb. 1 - 2 at the Golden State Museum in Sacramento, Calif.

The conference, for K-12 educators, was sponsored by the California Space Authority and hosted by the Space Foundation of Colorado Springs, Colo. More information about the conference can be found at: <http://www.spacefoundation.org/sitc>

The astronomy section of NASA's new web site zeros-in on our solar system's astronomical characteristics that make it livable to human beings.

"Students test cause-and-effect relationships to discover the characteristics that allow Earth to remain habitable. Students also will explore hands-on, inquiry-based lessons on states of matter and systems and then complete a mission in which they simulate the process scientists might use to find a planet that would be habitable to humans," said O'Guinn.

Students can participate in the NASA-sponsored Astro-venture internet events with-

out pre-registering. There is no charge.

The Astro-venture lessons meet national educational standards and provide a purpose for understanding concepts such as states of matter. "Since we need liquid water to survive, we need to understand how liquid water is different from solid and gas and what conditions permit water to be a liquid," O'Guinn explained. The web site also highlights NASA careers and astrobiology research in astronomy, geology, biology and atmospheric sciences.

According to web team members, they are developing the web site to meet educational standards, research-based instructional methods and the constraints of today's classrooms. The team includes instructional designers, graphic artists, multimedia programmers and web developers who work with NASA scientists, including some astrobiologists and their support personnel from the NASA Astrobiology Institute, which is headquartered, at Ames. Astrobiologists at Ames are studying the organic chemistry of

continued on next page



graphic by Andrew Doser

changes to the Earth and draw conclusions about what is needed for survival. Participants can 'feel' that they are part of an internet world by receiving information seamlessly, through use of graphics, audio, video and audio transcriptions.

"Students in grades 5-8 are transported to the future where they role-play NASA occupations and use scientific inquiry, as they search for and eventually build a planet with the necessary characteristics for human habitation," said Christina O'Guinn of the educational technology team at Ames. "Supporting activities include internet webcasts with real NASA scientists, online collaborations, classroom lessons, a student publishing area and occupation-related fact sheets and trading cards."

Webcasts enable students to watch live video, listen to audio, and interact in real time on the internet with experts. The webcasts' URL is located at: <http://quest.nasa.gov/astrobiology/astroventure/2002/index.html>

Two one-hour Astro-venture webcasts will take place in April. The first, 'Habitable Planets,' will be on April 2 at 10 a.m. PST. The second, 'Doppler Shift,' will take place on April 9 at 10 a.m. PDT.

"Our goal is to inspire students to pursue science, math and technology careers by engaging them in an extremely compelling topic, astrobiology, in a way that is very relevant to them, focusing on Earth and human survival," said Donald James, education director at NASA Ames. Astrobiology is the study of the origin, evolution, distribution and destiny of life in the universe. "Research shows that it is crucial to capture students' interest in science before they reach high school," he said.

O'Guinn described the 'Astro-venture'

February is 'Black History Month'

Carter G. Woodson (1875-1950), known to many as the 'Father of Black History,' was born in New Canton, Virginia on Dec. 19, 1875. He was the son of ex-slaves who could neither read nor write. His family moved to West Va., where he worked in the coal mines to contribute to his family's income. Although he was not able to attend school as many children his age could, his desire to learn and his parents' encouragement helped him accomplish many things throughout his life. After graduating from high school at the age of 20, he attended the University of Chicago. He received a bachelors degree in 1907 and a masters degree in 1908.

Carter G. Woodson fulfilled the goals he set for himself and is remembered for many accomplishments, one of which was establishing Negro History Week in 1926, which we now celebrate as 'Black History Month.'

There are many black Americans who have made significant contributions to the American culture. Many of these contributions and accomplishments were not recognized in the past and some still are not. We should do research to learn and become informed about these outstanding people, as there are many.

Another accomplished black American is James Weldon Johnson (1871-1938). Born in Jacksonville, Fla., he is recognized as an educator, poet, author and organizer. His mother, a native of the Bahamas, instilled a sense of racial pride in him and his brother John, a musician. In 1900, John composed music to accompany a poem written by James, which has become a well-known song that represents a sense of

pride felt by many of us. Here are the words to that song:

*Lift every voice and sing
'Till earth and heaven ring,
Ring with the harmonies of liberty;
Let our rejoicing rise
High as the listening skies,
Let it resound loud as the rolling sea.*

*Sing a song full of the faith that
the dark past has taught us,
Sing a song full of the hope that the
present has brought us,*

*Facing the rising sun of our new day
Begun, let us march on 'till victory is
won.*

The National Association for the Advancement of Colored People (NAACP) with a collaborative effort was founded in New York City by black American and liberal Caucasians. One of the accomplishments of this organization succeeded in getting the Supreme Court to rule that segregation was unconstitutional in places of public education, housing, employment and the military.

There are many organizations and Americans at all levels who are striving each day to help all of us live together on equal ground. Remember, this month has been recognized as 'Black History Month'; however, one month of remembering is not enough. Americans of all cultures should continue to work daily for unity and equality amongst us all.

BY MARY BUFORD HOWARD 

NASA, Carnegie Mellon sign computing agreement

NASA Ames has signed an agreement to award \$23.3 million to Carnegie Mellon University's School of Computer Science to develop a multi-disciplinary, multi-institutional High-Dependability Computing Program (HDCP) to improve NASA's capability to create dependable software.

The incremental five-year cooperative agreement is part of a broad strategy for dependable computing that links NASA, Carnegie Mellon, corporate partners and other universities. Carnegie Mellon experts will collaborate with NASA scientists and researchers from other universities, including the Massachusetts Institute of Technology, University of Maryland, University of Southern California, University of Washington and University of Wisconsin, to measure and improve the dependability of NASA's systems.

"We are delighted to work with Carnegie Mellon," said Ames Center Director Dr. Henry McDonald. "Carnegie Mellon is a leader in computing and robotic technologies. We see this as a cornerstone as we move forward with the development of NASA Research Park," he said.

"While software dependability has been a theme of computing research for several decades, this program addresses the issue in a new way, looking at the particular challenges of large systems, and combining measurement with improvement," said William L. Scherlis, principal research scientist in the Institute for Software Research, International in Carnegie Mellon's School of Computer Science. Scherlis and James H. Morris, professor and dean of the School of Computer Science, are principal investigators on the High-Dependability Computing Program.

"This is a unique opportunity to develop an empirically based science for software dependability, and could have a major impact on NASA's ability to rely on complex software for advanced mission capability," said Dr. Michael L. Lowry, chief of research in advanced software engineering technology within the Computational Sciences division at Ames. Previous research collaborations between this division, headed by Dr. Daniel Clancy, and Carnegie Mellon have resulted in tools that formally verify artificial intelligence software that autonomously controls robotic spacecraft.

Dependability is a major challenge for all complex software-based systems. Today, there are few effective techniques for measuring dependability and for improving the dependability of large and complex systems. Aspects of dependability include safety-critical reliability, high security, high integrity, continuous operation and human-computer interaction. "Human performance and human computer interaction are critical elements of software reliability," said Dr. Terry

Allard, chief of the Human Factors Research and Technology Division at Ames. These criteria have long been requirements for space and defense systems. Now they are increasingly important for systems in many other sectors of society, including systems associated with national infrastructure, defense and health care, as well as mainstream systems ranging from electronic commerce to desktops.

"By studying large systems and components important to NASA, we will be better equipped to understand the challenges of moving techniques for measuring and improving dependability from the laboratory into practice, both for NASA and for the mainstream software development that contributes to the NASA mission," Scherlis said. "The testbed projects will provide important stepping stones in this process." Testbed projects, to be announced over the next few months, are likely to include an advanced networking architecture for the International Space Station and NASA's research to improve air-traffic control.

Morris explained that the diverse skills needed to accomplish the HDCP's goals do not reside exclusively at any single laboratory. The principal focus is on strengthening software dependability for NASA. In addition, Carnegie Mellon and its partners will develop collaborations with industry and with other major software development efforts, including open source projects. First-year funding for the HDCP is \$2.9 million, which will be divided between Carnegie Mellon's Pittsburgh campus, research efforts on the West Coast and other universities as subcontractors.

The High-Dependability Computing Program is the most recent in a number of important collaborations that Carnegie Mellon has undertaken with NASA. Carnegie Mellon has worked for the past two years to establish a presence in the Silicon Valley. This includes formation of the High-Dependability Computing Consortium (HDCC) jointly with NASA and 15 Silicon Valley companies, focused broadly on reducing failures in computing systems critical to the welfare of society.

Carnegie Mellon has an agreement with NASA to use facilities at Ames to initiate the high-dependability program. "Carnegie Mellon has unique capabilities to offer in the Silicon Valley, the information technology capital of the world," said Morris. He believes that Carnegie Mellon's presence in the valley not only makes its offerings more broadly accessible, but also can enhance the educational experience of students at the Pittsburgh campus by giving them opportunities for internships or research with NASA or Silicon Valley companies. In addition,

"Carnegie Mellon has more than 2,500 alumni in Silicon Valley. They want to see us take a more active role in this environment," he said.

In other work with Ames, Carnegie Mellon researchers have developed high-profile robots such as Dante, which explored the interior of a volcano, and Nomad, which discovered meteorites in Antarctica. In addition, Carnegie Mellon researchers also have worked with Ames researchers on projects such as formal methods for verifying digital circuitry, vision and navigation, machine learning and data mining.

BY MICHAEL MEWHINNEY ▲

Students 'search' for habitable planets

continued from previous page

space, the formation of planetary systems, and the early history of the Earth, one NASA astrobiologist explained. These scientists investigate the origin of life and explore the most extreme environments that support life, from boiling hot springs to cold Antarctic rocks. Astrobiologists analyze martian meteorites for possible fossil evidence of life and carry out experiments in evolutionary biology using space shuttle flights.

"NASA Ames also is beginning a collaboration with California State University, Hayward, educational technology graduate students who are rapid-prototyping other modules and curriculum," O'Guinn said.

BY JOHN BLUCK ▲

VPP STAR Tip:

A union member describing her experience as part of a delegation to a VPPPA conference told workers at her plant that she had just seen labor and management in such total agreement that you couldn't tell one from the other by what they said or even what they wore.

....Margaret Richardson, in Preparing for the Voluntary Protection Programs, Copyright © 1999 by John Wiley & Sons, Inc. Reprinted by permission.

Cancer takes master model maker Elwood Leibfritz

Elwood R. "Fritz" Leibfritz, who worked in model making at Ames from 1947-1984, died Jan. 8, at age 76, of cancer. Model making was not just a job for Leibfritz. Models, real airplanes and automobiles permeated much of his life. In retirement, he even built a very unique hot rod from scratch.

"At home he was into wood models, slot cars, radio-control models and he had a roadster he worked on. He was a real nice guy," said Greg Paulson of Code FMD. Leibfritz even worked on two-dimensional rubber band-powered planes covered with laser-printed paint schemes on tissue paper. His family still has one-inch-long, scale models he made as a child.

"He designed and manufactured the frame for the hot rod," said Manuel Fontes, who retired from the Ames model shop in 1989. "The frame and suspension were designed to racing car specifications. He designed it so the seating was lower, not sitting up high like in most hot rods. He put a small block V-8 Buick motor in it. The motor was special-built in Reno at a race car motor manufacturer. The body or 'bucket' was a 1927 Ford Model T. He made a professionally manufactured hot rod. It handled well."

Leibfritz worked in the Advanced Composites and Metals Development branch, Code FMD, and was branch chief when he retired. During Leibfritz's early years at Ames, he was a research model maker. He was a perfectionist, which made him a good fit for the work he did, according to his brother Gilbert, of Code FM. He also said his brother didn't hesitate to tell someone that he did something wrong, but he did it in a non-critical or blaming way.

"Leibfritz was an Army Air Force B-25 pilot in World War II," Fontes said. "Right after the war, he came to work at Ames when it was part of the National Advisory Committee for Aeronautics. They were still making World War II vintage test models of aircraft and were just getting into the jet age."

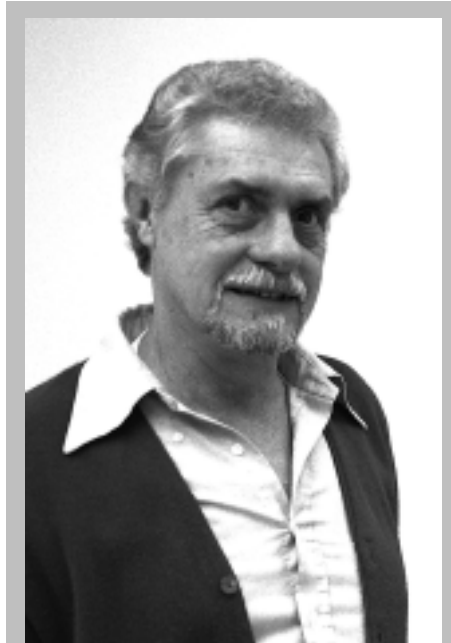
"During his early days, he raced hardtops and sprint cars at the speedway in San José, Belmont and others," Fontes said. "He and Frank Luft also completely restored a World War II vintage Steerman airplane." The United States used Steerman biplanes in the 1930s and the second world war to train military pilots.

"He and Luft got together and they bought this old Steerman, and it didn't have any wings," said Fontes. "The men went out and researched and then built wings from scratch. They had to hunt to find specs. The wings were fabric-covered. The two had to go find an engine and rebuild it. When they completed the plane, it was featured in magazine articles across the country and in the United Kingdom."

"We had lunch together about a month and a half ago," Fontes said. "We both came

to the conclusion how lucky we were to get those jobs in model making. This was a job to dream about. We enjoyed every minute of it. 'How lucky we were,' Fritz would say."

"We worked with the best of the best directly on their aerospace projects," Fontes continued. "We made couches for the astro-



Elwood Leibfritz

nauts. Some came here. We made all the model capsules and boosters and just about everything. We were called out many, many times to engineering conferences to make recommendations. He was always a contributor."

In those earlier days of NACA and early NASA, there was a great team spirit, according to Fontes. People from different groups dropped in and helped each other without formal pre-arrangements, Fontes related. "They were just a telephone call away," he said.

"He made one of the first scale models of a vertical-take-off-and-landing aircraft," said Fontes. "That model was presented to Congress. At that time, we were called research and development model makers. We were a very unique group. We virtually worked in every field."

"One of the reasons that the model makers were able to adapt to new projects and technology was because they could draw on their past projects and experiences. We were exposed to all of these people, and where else could we be exposed to so many technologies? I cannot think of any company where you could work and where you could get that kind of exposure that we got at Ames. We even developed medical stuff."

"Fritz got onto a project to make model

rotor blades for helicopters. These were scale blades, and researchers made regular setups that were tested in the Army wind tunnels at Ames. The models had to be accurate and have structural integrity. He had to research many plastics and materials. Basically, you would call these composite blades, made of composite materials," Fontes said. "Fritz was well-known on the Army side. He worked on quiet blades."

"He developed the blade molds and the techniques to make the models," said Fontes. "That grew into other projects as the model shop went on to projects involving models that used composite materials. He was in the forefront of developing techniques to enable fabrication of strong and accurate composite models."

"We even started a casting shop. We cast a lot of exotic metals. We made models like the X-15 for the gun tunnels," Fontes said.

"As the agency grew, we grew. We started as a wood shop. We evolved from basic wood model pattern making. Some of the early metal models that were made in the machine shop were made from three-dimensional patterns made in the model shop. And then we got into plastics, which evolved into making composite models, investment casting and then we actually had a machine shop to machine special materials. They got into fire retardant materials for windows, and came up with coatings to stop explosions. The effort led to the establishment of a chemical lab in our model shop. We developed the space shuttle tiles, the blankets that cover the other body parts of the space shuttle and aircraft brake materials. Many of these advancements took place in the model shop, and many others we learned from other groups and industries."

"Later on, he also became the shop steward," Fontes remembered. "We had the only outside union then, the Northern California Pattern Makers. During negotiations, he helped establish higher grade levels for model makers."

Eventually, Leibfritz became a branch chief. "There was one thing really unique about him. He never considered the effects of his actions on his career. He always fought for people, if they were right," said Fontes. "He never held a grudge." At one time, there were as many as 40 people working in the model shop, according to Fontes.

Leibfritz is survived by his brother, Gilbert Leibfritz of Milpitas; sister Barbara Svetich of Bishop; son Fred Leibfritz of Colorado; daughter Karen Batchellor of Oregon; long-time companion Marge A. Wilson; and four grandchildren. Family members said they would like to thank everyone who donated to cancer research and other charities and for attending the Leibfritz memorial service.

BY JOHN BLUCK ▲

Event Calendar

Model HO/HOn3 Railroad Train Club at Moffett

Field in Bldg. 126, across from the south end of Hangar One. Work nights are usually Friday nights, 7:30 p.m. to 9:30 p.m. Play time is Sundays, 2 p.m. to 4 p.m. Call John Donovan (408) 735-4954 (W) or (408) 281-2899 (H).

Jetstream Toastmasters, Mondays, 12 noon to 1 p.m., N-269/Rm. 179. Guests welcome. POC: Samson Cheung at ext. 4-2875 or Lich Tran at ext. 4-5997.

Ames Ballroom Dance Club. Classes meet Tuesdays. Begin. classes start 6:15 p.m. Schedule: Feb., East Coast swing; Mar., waltz. Higher-level class meets at 5:15 p.m., Schedule: Feb. 5, 12, East Coast swing; Feb. 19, 26, Mar. 5, West Coast swing; Mar. 12, 19 and 26, waltz. Classes held in Bldg. 944, the Recreation Center. POC: Helen Hwang, hwang@dm1.arc.nasa.gov.

Ames Bowling League, Palo Alto Bowl on Tues. nights. Seeking full-time bowlers and substitutes. Pre-league meeting at Palo Alto Bowl on Tues, August 28 at 6 p.m. Questions to sign up: Mike Liu at ext. 4-1132.

Ames Diabetics (AAD), 1st & 3rd Weds, 12 to 1 p.m., at Ames Mega Bites, Sun rm. Support group discusses news affecting diabetics. POC: Bob Mohlenhoff, ext. 4-2523/email at: bmohlenhoff@mail.arc.nasa.gov.

Ames Child Care Center Board of Directors Mtg, Every other Thursday (check web site for meeting dates: <http://accn.arc.nasa.gov>), 12 noon to 2 p.m., N-269, Rm. 201. POC: Joan Walton, ext 4-2005.

Ames Federal Employees Union (AFEU) Mtg, Feb. 20, 12 p.m. to 1 p.m., Bldg. 19, Rm 1042. Info at: <http://www.afeu.org>. POC: Marianne Mosher at ext. 4-4055.

Ames Amateur Radio Club, Feb. 21, 12 noon, N-T28 (across from N-255). POC: Michael Wright, KG6BKF, at ext. 4-6262. URL: <http://hamradio.arc.nasa.gov>.

Native American Advisory Committee Mtg, Feb. 26, 12 noon to 1 p.m., Building 19, Rm 1096. POC: Mike Liu at ext. 4-1132.

Nat'l Association of Retired Federal Employees (NARFE), Mar. 1, S. J. Chptr #50 mtg, 9:30 a.m., Hometown Buffet, Westgate Mall, 4735 Hamilton Avenue., San José. Program at 10 a.m. Gardening specialist. Lunch at 11 a.m. \$6.27 pp. POC: Earl Keener (408) 241-4459 or NARFE 1-800-627-3394.

Ames Contractor Council Mtg, Mar. 6, 11 a.m., N-200, Comm. Rm. POC: Paul Chaplin at ext. 4-3262.

Environmental, Health and Safety Information Forum, Mar. 7, 8:30 a.m. to 9:30 a.m., Bldg. 19/Rm 1040. URL: <http://q.arc.nasa.gov/qe/events/EH5series/> POC: Julie Quanz at ext. 4-6810.

Ames Classifieds

Ads for the next issue should be sent to astrogram@mail.arc.nasa.gov by the first Friday following publication of the present issue and must be resubmitted for each issue. Ads must involve personal needs or items; (no commercial/third-party ads) and will run on a space-available basis only. First-time ads are given priority. Ads must include home phone numbers; Ames extensions and email addresses will be accepted for carpool and lost and found ads only. Due to the volume of material received, we are unable to verify the accuracy of the statements made in the ads.

Housing

For rent: duplex in MV (nr Grant Rd. & Hwy. 85). Spacious, clean, 2bd/1.5ba. Lg. kitchen w/appliances; lg. living room w/fireplace. Newly painted; new blinds, drapes; neutral colored carpets. Updated bthrms. W/D hkup. Garage. Priv. yard. Nice nghbrhd; walk to shopping. No P/S. \$1,625/mo.; \$1,750 dep. Call (650) 948-7542.

Renting 2 rooms/1 bath, dep: \$325 & \$650/mo w/ bath; or dep: \$225 & \$550/mo w/o bath. Location: Santa Clara. Jennifer (408) 567-0213.

Week of Feb. 23 through Mar. 2 at Ridge Tahoe Resort for sale, \$150 plus \$129 exchange fee, includes tax. Unit has kitchenette, t.v., indoor pool, shuttle to ski-ing, other amenities. Sarah (650) 537-0057.

Room in 3bd/2ba MV townhouse. \$800 rent (incl. utils). Share w/prof'l female (and cat). Private bathroom. Female preferred. NS/NP. Call (650) 254-1121.

1 bd/1 ba apartment for rent in MV. \$995/mo, \$750 dep, no smoking, no pets. Avail. now, located 5 minutes from Ames on Mariposa Ave. Call (408) 249-3220.

Summer visitors--temporary rental available for 3 to 6 months between April and October 2002. 3 bd/1 ba home in Cupertino, DW, W/D, hot tub & pool table. Furnishings optional. 12-20 min commute to Ames. \$2,450/mo. Laura (408) 343-1272.

Room & priv. bath avail. April 1 in beautiful townhouse on Sunnyvale/Los Altos border. Share with one quiet prof'l female. Rent is \$1,200 per month and includes private patio, storage space, office space, covered parking, fireplace & pool. Prefer 1 year lease. Call (408) 253-6043.

Condo for rent: 1 bdrm, remodeled bath, w/ large closet, new W/D, new carpet/paint, 2 decks, BBQ, pool & jac, garage negotiable, quiet location on Fair Oaks close to H101. Rent \$1,450/mo (or \$1,800 furnished) + \$1,500 dep + PG&E (about \$30/mo). Rental agreement, refs and credit history req'd. Avail March. Scott (408) 736-3121.

Miscellaneous

Mahogany ranch mink coat, street length, all female skins, I. Magnins appr/ins. \$7,500 sell \$1,075 or B/O. Cleaned and glazed. Wini Wood (650) 968-8650.

Apple PowerBook G3: 14.1 inch display, 10GB HD, internal zip drive, 1GB jaz drive, 20x CD-ROM, USB card, 56K modem, built in SCSI port, mouse, 96 MB RAM, Office 98, PhotoDeluxe, etc. \$1,200. Bob Giesler (408) 378-8633.

6400 PowerMac, oldie but a goody, everything but the monitor, great cond, \$100. 29in. truck tires w/ steel wheels, 6 lug, plenty of tread, best offer. Fire extinguishers, all types, empty, best offer. Call (408) 377-8671.

Equinox bike trailer (double) \$125. Call (408) 725-8695.

Elna Jubilee electronic 500 sewing machine includes maple cabinet and attachments. New condition. \$300. Call (408) 745-1734.

Adobe GoLive 5.0 for the Mac, professional web authoring and site management, unopened, still in shrink wrap, \$250 or B/O. Call (408) 377-8671.

Bunk bed, dresser, desk with hutch and chair, \$350. Call (408) 725-8695.

Two matching pairs of double, prairie-style casement windows removed from 1923 California Bungalow home. Good condition. Call for pics, \$75. Call (408) 295-2160.

Organ: Thomas 782 Symphony Royal, full keyboards. Gd cond. \$995. Call (408) 723-7095 lv msg.

Adorable mini Schnauzer puppies, 2F, 2M, born 1/11; available 3/11; clipped tails and dew claws and first shots; AKC registered. Ed Kelley (408) 294-9289.

NCAA Men's Western Regional Basketball Championship at the San José Arena on Mar. 21 (2 games) and Mar. 23 (championship game). Four tickets for sessions 1 and 2. Section 207, Row 8, seat #s 13 - 16. \$800 for entire package. Ken (408) 253-6643.

Printer: HP Deskjet 870 Cse. Professional Series, color printer, exc. condition. \$50. Call (408) 723-7095; lv msg.

Transportation

'62 Chevrolet Bel Air, project car, one owner, 2 dr, 283 cu. in. V-8, 3spd w/OD, not operated in last 3 yrs, \$850 or B/O. Call (408) 227-2710.

'70 VW convertible classic--like to restore VW's? Take me home. Original owner, no smog needed, transmission ok, needs work on top & possibly engine. Only \$1,200. Esther or Art (650) 961-2732.

'84 Mazda truck, white, has shell, good tires, tranny year old runs good, \$700 or B/O. Call (408) 564-0314.

'87 BMW 535i, loaded, 2 years old radiator, converter, exhaust system, brake and tires. Metallic blue, never had accident, nice body, run smoothly, 193K mls. \$3,500. Francis (510) 489-0830.

'92 Honda Accord, loaded, great shape, low miles, and all maintenance records. \$6,750 or B/O. Debbie or Eric (650) 424-8138.

'92 Honda Accord, 4dr, automatic, exc. condition, smogged, automatic. \$5,000. Call (408) 253-9453.

'93 GMC 1500 SLE 4x4 full sized truck 5.0L eng. red/black 2 tone paint, 5 speed manual trans, 108,000 mls, cruise control, pwr locks and windows, A/C, new clutch, new radiator, tow package. Must sell! \$6,900 or B/O. coma557@yahoo.com or Colby or Kathey (510) 796-4503.

'94 Chevrolet Camaro, V-8, T-Top, w/rear spoiler. emerald green, 65,000 mls, \$7,500 or will negotiate. Tommy (408) 464-8803.

'98 Ford Ranger XLT, ext cab, automatic, V6 3.0, AC, Vista camper shell, carpet kit, AM/FM stereo, cassette, 25K mls, \$10,500 or B/O. Deanna (408) 260-1180, 5-9 p.m.

'00 Chevy Impala, assume lease or purchase, 18 mos left on lease. Full power, P-front seats, cd, pw, abs-brakes, tilt wheel, LS suspension, 4w-disc brakes, 3 on brd computers. Bob (408) 736-4039 (H).

'00 Honda VTR 1000 motorcycle. Yellow, fast and pristine. Only 1,600 mls. Adult owned, dealer serviced, garaged. \$6,800. Tom (831) 335-7957.

Ames Public Radio

1700 KHz AM radio -- information announcements and emergency instructions, when appropriate, for Ames employees. The emergency information phone number for Ames is (650) 604-9999.

Exchange Information

Information about products, services and opportunities provided to the employee and contractor community by the Ames Exchange Council. Visit the web site at: <http://exchange.arc.nasa.gov>

Beyond Galileo N-235 (8 a.m. to 2 p.m.)

ext. 4-6873

Ask about NASA customized gifts for special occasions. Make your reservations for Chase Park.

Mega Bites N-235 (6 a.m. to 2 p.m.)

ext. 4-5969

See daily menu at: <http://exchange.arc.nasa.gov>

Visitor Center Gift Shop N-223

(10 a.m. to 4:00 p.m.) ext. 4-5412

NASA logo merchandise, souvenirs, toys, gifts and educational items.

Tickets, etc... (N-235, 8 a.m. to 2 p.m.)

ext. 4-6873

Check web site for discounts to local attractions, <http://exchange.arc.nasa.gov> and click on tickets.

March, Best Little Whorehouse in Texas, Golden Gate Theatre

Mar. 9, 7:30 p.m. San José Sharks vs. Vancouver, Compaq Area, San José.

Mar. 23, 8 p.m., Joseph & The Dream Coat, San José Center for the Performing Arts

NASA Lodge (N-19) 603-7100

Open 7 days a week, 7:00 a.m. to 10 p.m. Rates from \$40 - \$50.

Vacation Opportunities

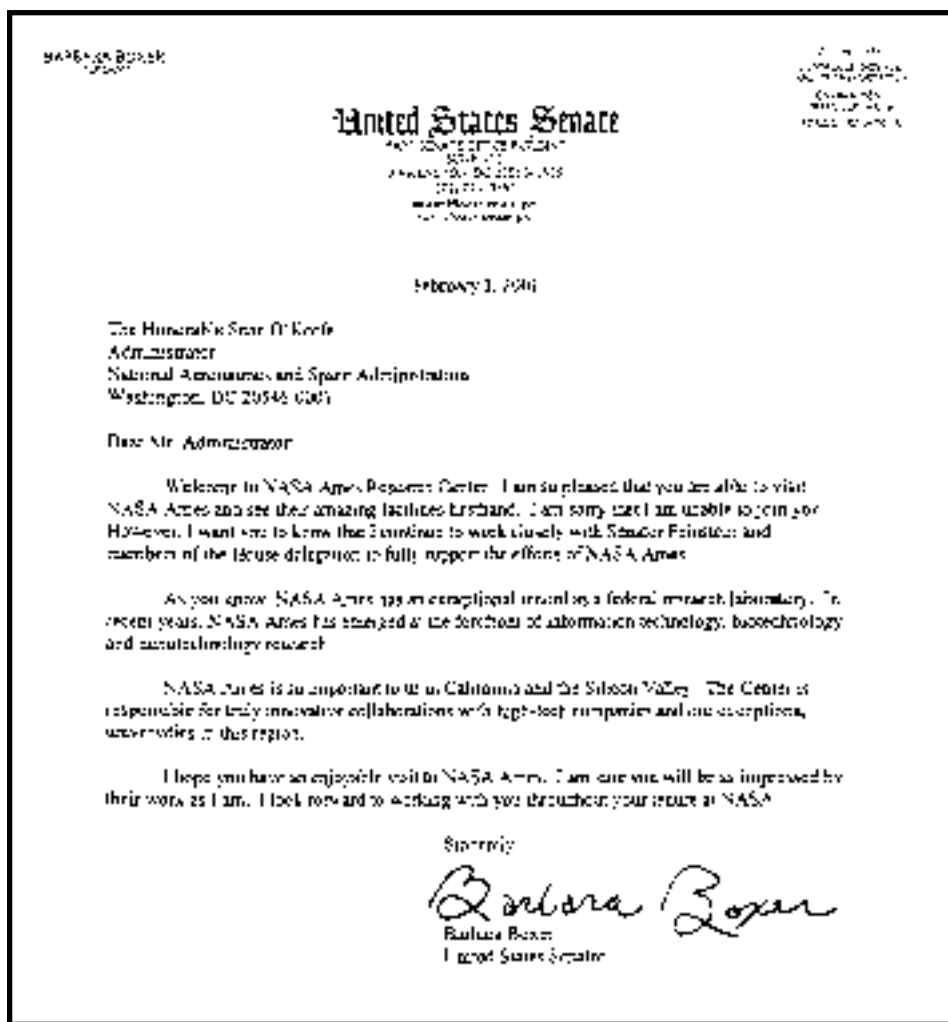
Lake Tahoe-Squaw Valley townhs, 3 bd/2ba, view of slopes, close to lifts. Wkend \$500, midwk \$190 nite. Included lines, cleaning, propane fireplace, fully furnished. Call (650) 968-4155. DBMcKellar@aol.com

South Lake Tahoe Cottage w/wood fireplace and hot tub. Rates from \$50 to \$130 per night. Call (650) 967-7659 or (650) 704-7732.

Vacation rental, Bass Lake CA 14 mls south of Yosemite. 3bd/1.5 ba, TV, VCR, MW, frplc, BBQ, priv. boat dock. Sleeps 8. \$1,050/wk. Call (559) 642-3600 or (650) 390-9668.

Big Sur vacation rental, secluded 4bd/2ba house in lovely canyon setting. Fully eqpd kitchen. Access to priv. beach. Tub in patio gdn. Halfway between Carmel & Big Sur. \$175/night for 2; \$225 for 4 and \$250 for more, plus \$150 cleaning dep. Call (650) 328-4427.

Incline Village: Forest Pines, Lake Tahoe condo, 3 bd/2 ba, sleeps 8. Fireplc, TV/VCR, MW, W/D, jacuzzi, sauna, pool. \$120/night low season; \$155/night high season. \$90 cleaning fee and 12% Nevada room tax. Charlie (650) 366-1873.



O'Keefe tours Ames, sets tone for future

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from the greater San Francisco Bay area interacted via satellite with scientists in Alaska during 50 telecasts Jan. 28 - Feb. 8 at Ames. During the broadcasts, local students from grades 3 to 12 talked live by satellite with scientists and students in polar regions who are studying geology, climate change, native cultures, plants, animals and even the bacteria of some of Earth's colder places. These investigations were part of "JASON Project XIII: Frozen Worlds."

Commenting on the value of NASA's educational programs, O'Keefe said educational activities, like JASON, can inspire children to study science, engineering and technology. Translating what NASA is doing for school children is going to make a difference in so many lives, he said. Children should say, "Wow, I want to be a part of that," said O'Keefe. Scientists and engineers should do their best to "translate" NASA research and findings for K-12 students, he suggested.

More information about Administrator O'Keefe is available on the Internet at: <http://www.nasa.gov/bios/okeefe.html>

Link to biographies of NASA Administrators--<http://www.hq.nasa.gov/office/pao/History/prsnl.htm>

BY JOHN BLUCK ▲



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